ADMINISTRATION REPORT OF MILITARY WORKS

OF THE

PUBLIC WORKS DEPARTMENT,

(GENERAL BRANCH),

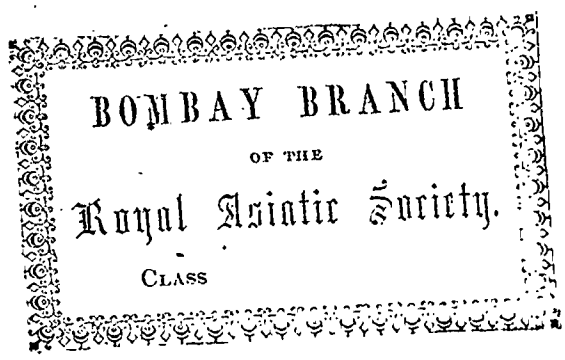
BOMBAY PRESIDENCY,

FOR THE YEAR

1890-91.

Bombay:
PRINTED AT THE GOVERNMENT CENTRAL PRESS.

1891.



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PUBLIC WORKS DEPARTMENT,

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FOR THE YEAR 1890-91.

MILITARY WORKS.

GENERAL REMARKS.

1. The scheme for establishing a separate Military Works Department in this Presidency was given further effect to by the transfer, during the year, of the Military Works at Belgaum, to the Madras Military Works Department.

2. The following stations remained under the control of the Bombay Public Works Department during the year :—

Poona District.

Ahmednagar. | Purandhar.
Sirúr. | Khandála.

Sátára.

Bombay District.

Málegaon. | Baroda.
Bhúj. | Surat.

Thána.

Deesa District.

Ahmedabad. | Rájkot.

3. Financially the transfer of the works at the larger stations to a separate agency has resulted in very largely increased expense to the State. The total loss to Provincial revenues on the estimates for 1890-91 is estimated at over Rs. 1,00,000, which in effect means that urgently necessary Civil works to that amount had to be deferred, and this will recur annually ; it is further believed the supervision by a separate agency has cost Imperial funds considerably more than the percentage charge formerly contributed for supervision by the Public Works Department as part of their general duties. The subject is dealt with in some further detail in paragraph 18 of the Civil Works Administration Report.

4. The expenditure in the stations still under the Public Works Department (including contributions) during the year amounted to Rs. 2,09,198, of which Rs. 63,567 was for Original Works, Rs. 85,482 for Repairs, Rs. 35,454 for Establishment, Rs. 2,234 for Tools and Plant, and Rs. 22,461, for Barrack Department.

5. The works carried out during the year under each head were as follows :—

1.—ACCOMMODATION FOR TROOPS.

Buildings for European Troops in the Plains.

6. During the year the question of providing accommodation for the Volunteer Artillery Head Quarters at Bombay was under consideration in this Department, in connection with the Claremount buildings and premises, at Nesbit Lane, Byculla, which had recently been vacated by the Army Clothing Department, on its transfer to Madras. Government were unable to acquiesce in the appropriation of the whole of these valuable buildings to the purpose, but proposals were made for adapting a portion of the premises as Volunteer Artillery Head Quarters ; and, as a temporary arrangement, a portion of the ground floor of the building was allotted for the use of the Volunteers

Bombay.

and permission was accorded to locate the gun and its stores in the premises, on the understanding that they would be vacated when required. The project for arrangements of a more permanent character is under preparation in the Military Works Department.

Ahmednagar.

7. In connection with the Royal Artillery Barracks, three new iron stables, to accommodate 112 horses, have been constructed; and a horse infirmary, forge, shoeing-shed, and gram-room have also been completed during the year. The total cost has been Rs. 45,418, against the sanctioned estimate of Rs. 45,564.

8. A new Armourer's shop for British Infantry has been constructed, on the latest standard plan, comprising a workshop, 30′ × 24′, a drying-room, 10′ × 10′, a forge and boiler-room, 24′ × 9½′, a wood-room, 10′ × 10′, and two side verandahs, 31′ × 10′. The total outlay was Rs. 6,727, against the estimate of Rs. 7,792.

9. Concrete floors have been provided to the married quarters in Patcherry building No. 147, for British Infantry, at a cost of Rs. 1,392.

10. Special repairs to the roof of the Station Hospital in the British Infantry lines were completed at an outlay of Rs. 2,342.

11. At the request of the Military authorities, funds, to the extent of Rs. 2,794, were provided by re-appropriation, early in the year, for covering in the Gymnasium for British Troops, but the proposed shed not being considered by the Chief Engineer as a satisfactory arrangement, as the shelter afforded would be imperfect, the matter was referred to the Military authorities, and a reply not having been received up to the close of the year, the work could not be commenced, and the provision was re-appropriated.

Buildings for European Troops in the Hills.

Khandála.

12. The necessity for a Regimental Institute at Khandála was pressed upon the attention of Government by the Military authorities, who represented that this want militated against the chief use for which the Sanitarium was built, and that His Excellency the Commander-in-Chief was most anxious that this defect should be remedied as soon as possible. Plans and estimates were prepared accordingly for converting the quarter-guard at Khandála into a Regimental Institute; they did not, however, meet with the approval of His Excellency the Commander-in-Chief, and no expenditure was incurred during the year.

Purandhar.

13. An estimate amounting to Rs. 15,525, was prepared and sanctioned, in the early part of the year, for special repairs to the roofs of Barracks Nos. 1 and 2 at Purandhar, which were considered to be in an unsafe condition, and the necessary funds provided, partly from the Budget grant of this Government, and partly by transfer from the Budget grant of the Military Works Department. Before, however, a commencement could be made with the work, the additional grant made from the latter was withdrawn by the Government of India, pending an inspection of the station by His Excellency the Commander-in-Chief, who was of opinion that the proposed expenditure was unduly large in comparison with the wants of other stations. After inspection, His Excellency considered that the re-roofing of the barracks was unnecessary; and certain suggestions were made in regard to their treatment, with a view to save outlay. On these being referred to the Superintending Engineer, that officer stated the reasons why he considered that nothing short of renewing the roofs would answer. The Military authorities concurring in the reasons advanced, a revised estimate, including certain alterations suggested by the Military authorities, was called for and submitted to them, and was still under their consideration at the close of the year, and no outlay was incurred.

14. Landslips having occurred at the Purandhar Hill Sanitarium during the past year, which endangered certain public buildings, an approximate estimate for certain protective works, amounting to Rs. 7,480, was drawn up and submitted. Owing to the approach of the monsoon, however, it was impossible to carry out any large connected scheme of protective works, and, at the suggestion of the Executive Engineer, a party of Sappers, consisting of a haváldár and 12 men, were stationed at Purandhar, whose duty was to make frequent inspections, as the weather permitted, and in case of detecting unsound or dangerous pieces of rock, to make such arrangements, either for removal, or preparing a trench to catch them in their fall, as circumstances might dictate. An estimate, amounting to Rs. 600, for the necessary expenses, including special plant, was sanctioned; and an outlay of Rs. 138 incurred up to the close of the year.

15. During the year under report, after a personal inspection, the Superintending Engineer reported that the first thing required in connection

with the protective works was to make Barrack No. 4 and its wash-house safe, as these buildings were menaced by the disintegrating rocks on which stands the sky-scraper bastion, and he proposed to provide a trench and embankments at some distance from the foot of the rock under the bastion, on the flat piece of ground adjacent, to arrest the falling rocks and boulders, and to remove the bastion, which is a source of danger, and is standing unsupported. He also considered that the present married quarters should not be occupied during the monsoon, for fear of a part of them being bodily swept away by rolling stones. Improvements to the road leading to the Delhi Darwája, and the construction of a masonry pillar in the cave under the congeries of bastions, was also considered necessary. Plans and estimates, amounting to Rs. 920 and Rs. 394 were, accordingly submitted, and the necessary funds having been provided, these works were completed during the year.

Buildings for Native Troops.

16. A quarter guard for Native Infantry, of permanent construction, has been completed at a cost of Rs. 4,900, against the sanctioned estimate of Rs. 4,933. Bhúj.

17. The new hospital for the Native Infantry Regiment at Sátára, the details of which were given in last year's report, was completed and occupied in the month of June 1890, with the exception of the hospital assistant's quarters, which, owing to an alteration in the design, were not completed till two months later. The expenditure during the year was Rs. 8,236, and the total cost Rs. 17,970, against the sanctioned estimate of Rs. 20,056. Sátára.

18. A Quarter Master's store for the Native Infantry Regiment was sanctioned for construction during the year, at an estimated cost of Rs. 7,058. The building is to consist of a room 10′ × 20′ for ammunition, two store-rooms 20′ × 20′, a room 28′ × 18′ for reservists' kit, and a verandah room, at the back, for tents; a verandah, 6 feet wide, is arranged in the front.

19. Provision was made in the Budget for a new magazine for Native Infantry, but the work was postponed, at the request of the Military authorities, as not being urgent, and the amount re-appropriated to other urgent works.

5.—Stud.

20. Two of the old Cavalry stables, which were made over to the Remount Department, have been re-roofed, and the supporting pillars repaired, and an expenditure of Rs. 7,098 incurred, against the estimate of Rs. 15,085. The work is nearly completed, and a saving on the estimate is anticipated. Ahmednagar.

7.—General Cantonment Works—Water-Supply.

21. The works at the Pashan Tank, as well as the pipes, cisterns, &c., for the water-supply of Kirkee, were maintained in an efficient state, at a total cost of Rs. 2,084; and Rs. 945 have been expended on the work of supplying the troops quartered on the left bank of the Mula river in Kirkee with water, including the laying of 1,600 feet of 2½″ distribution pipes, constructing a cistern, fixing 6 fire-plugs, and laying on water to the temporary hospital in the 28th Pioneers' Lines. Kirkee.

22. The possibility of the failure of the water-supply to the British troops stationed at Ahmednagar has frequently engaged the attention of Government. At present the sources of supply are (1) the Bhingár aqueduct, and (2) the Sháhápur aqueduct. It may be explained that aqueducts of this class were generally constructed during the 15th to 17th centuries, by the Mahomedans, and the general principle on which they were arranged is that the water is collected in wells or reservoirs, sunk at the foot of and near the neighbouring hills, and the supply is often supplemented by excavating galleries radiating from these reservoirs or wells, and so tapping springs; the water is then led in channels, or conduits, sometimes so deep as to deserve the name of tunnels, with the object of tapping more springs, and so increasing the supply. In this way the water is conveyed to the points or places of distribution, the latter parts of the conduits being generally of masonry, often of earthenware or concrete pipes. Ahmednagar.

23. Proposals were made in the previous year by the Executive Engineer, Ahmednagar, to cease maintaining the Sháhápur aqueduct, as the money spent upon it is wasted, and to extend the Bhingár aqueduct instead; but it was decided that it would be undesirable to close the Sháhápur aqueduct, until it had been definitely proved that the Bhingár aqueduct will meet all requirements; and it was suggested that an estimate of the cost of putting the Sháhápur aqueduct into a thorough state of repair,

by laying down iron piping, should be prepared. A rough estimate was accordingly prepared, which amounted to Rs. 26,047, in submitting which it was shown by the Executive Engineer, that it would be much better to extend the Bhingár aqueduct at a cost of Rs. 15,671, and to spend the whole repair grant on keeping up that aqueduct properly; and, on the recommendation of the Military authorities, it was decided to excavate trial wells in order to test the expediency of extending and deepening the Bhingár aqueduct, and that the Sháhápur aqueduct should, in the meantime, not be abandoned.

24. The question of the liability of the Bhingár Municipality to pay for the supply of water drawn from the Bhingár aqueduct, on its course to the Cantonment, and for its maintenance, also came up before Government during the year, and it was urged, both by the Superintending Engineer and the Collector of Ahmednagar, that the Municipality should be required to pay one-half of the cost incurred in supplementing the supply in the aqueduct, by artificial feeding in 1889-90; and that, commencing from 1st April 1890, they should pay one-half of the actual cost of maintaining the aqueduct, such payments to entitle them to a share in the supply to such extent as may be available after the requirements of the troops had been met. The proposals having been considered in the General Department, an order was passed requesting the Collector to induce the Municipality to accede to the proposal to share equally with Government the cost incurred in feeding the aqueduct in 1889-90, and to bear one-third of the future cost of its maintenance; and that it should be understood that the payment of one-third of the cost, in future, will entitle the Municipality to a share of one-third of the available supply as a minimum, after the requirements of the troops had been met, and that if, in any year, the quantity of water available and actually supplied is less than one-third, a proportionate reduction should be allowed.

25. On the other hand, the question of re-fixing the Government grant to the Nagar Municipality, for water-supply to other portions of the Cantonment from the municipal aqueducts, *viz.*, the Vadgaon, the Kapurwádi, the Nagabai, and the Anandi, was also sent up for consideration. This grant had been fixed in 1887 at Rs. 1,400 for five years, and was annually provided for, under "Repairs," in the Military Works Budget; and the Municipality, in re-opening the question, urged that the amount should be increased to the average actual expenditure of the past three years, *viz.*, Rs. 2,022. Both the Commissioner and the Superintending Engineer were, however, of opinion, considering all the circumstances, that the contribution already paid, *viz.*, Rs. 1,400, was sufficiently liberal, and that that figure should be adhered to for the next five years. The papers were referred to the Military Department for opinion, with the concurrence of this Department, on the recommendations of the Commissioner and Superintending Engineer.

26. Neither question had been settled when the year closed.

Sátára.

27. At the request of the Military authorities, a scheme was prepared, during the year, for extending the water-supply from the city of Sátára, to the Military Cantonment and Sadar Bazár. The estimate, amounting to Rs. 51,970, including settling tanks and filter beds, was sanctioned late in the year; and provision to the extent of Rs. 35,600 was made for the works in the Budget Estimate of the ensuing year. Negotiations which had been in progress with the Municipality were concluded, by which the Municipality agreed to supply the Cantonment from the Euteshwar main, the supply in which is supplemented from the storage works at Khas, at the rate of 2 annas per 1,000 gallons, on the condition that, should a scarcity of water occur at any time, the quantity available shall be distributed between the City and Cantonment, including the Civil Station, in proportion to the respective populations of the two areas, and that the Municipality will not be held responsible for any interruption in the supply due to accident to the works, not ascribable to their neglect to maintain and repair them. Government, in accepting these conditions, pointed out that Rs. 63,747, from Provincial funds, had been contributed towards the cost of the Khas water-works, partly on the understanding that the Cantonment and station would ultimately be supplied from that source; and that it may reasonably be anticipated that, as soon as the water-works loan had been repaid, a reduction in the charge for the water may be made. On this understanding, an agreement for a term of 25 years was ordered to be drawn up, renewable at such rate as may be agreed upon, not exceeding that now determined. Proposals were, at the same time, ordered to be submitted for the recovery of water-rates from the occupants of private houses in the Cantonment and Sadar Bazár.

8.—FORTIFICATIONS.

28. In connection with the improvements to the hill fort at Sátára, works, the aggregate cost of which was Rs. 5,568, were completed during the year. The principal tank was also thoroughly cleaned, and a sluice valve provided at a cost of Rs. 469. The total expenditure on the works to the close of the year was Rs. 28,294, against the sanctioned estimate of Rs. 27,293. Plans and estimates for further works, amounting to Rs. 4,541, were prepared by a Royal Engineer Officer, who had been deputed to visit the fort by the Government of India. These provide for additional screen walls, gun emplacements, and several roads. When these proposed additions are carried out, the improvements will be complete. Sátára.

29. At other stations no new works of any importance were carried out, and the operations were confined to minor works, and the repairs of the existing military buildings, including the officers' bungalows in the Marine Lines at Bombay. Other stations.

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